“STING II”

Specifications Document

Version	Date	Contents
1.0	Sept 23th,2008	Initial Specifications
1.1	Dec,20 2009	Added Operation and storage conditions

Table Of Contents

1 GENERAL 3

2 "STING XTREME " SHORT DESCRIPTION 3

2.1 DEFINITION AND INTRODUCTION 3
2.2 FEATURES SUMMARY 4
2.3 STING XTREME STRUCTURE ..... **ERROR! BOOKMARK NOT DEFINED.**

3 DETAILED PRODUCT SPECIFICATIONS 5

List of Tables

Table 1: Specifications of the STING XTREME 7

1 General

This document outlines the Specifications of the “STING II ”.

2 “STING II” Short Description

2.1 Definition and introduction

STING II is a self contained, rugged, modular, digital video/audio recording system, capable of recording video and audio in MPEG-2 format that includes extensive wired and wireless communication options including Ethernet interface for internet access, direct connectivity to any media (including Monitor/ television), a built-in video motion detector, file encryption, time lapse recording mode, time/date stamp, watermark, and recording option on external hard drives,

Recordings are stored on Compact Flash plug-in cards and can then be played back using the STING II, downloaded from the Microdrive to a personal computer or accessed remotely. Recording time may vastly extended by connecting an external USB hard disk and thus allowing continues recording of full D1 video and audio for more than 1 month. The system also allows the user connect a wireless video transmitter hence enables viewing of live feeds.

The STING II includes an internal Li-ion battery and Time/Date stamp on the recorded video.

The device features a high quality MPEG2 video compression in full D1 quality (720x576 or 720x480) with up to 8Mbps data rate – for unsurpassed visual integrity

Once operation is on its way - the STING II uses discrete vibrations and LED indications (with configurable visibility), to notify the user of changing conditions such as battery and memory usage warnings.

STING II is designed mainly for extreme environments and can be used for police, military, firefighting and other extreme work, for portable video/audio recording featuring the highest quality available.

The STING II internal battery powers more than 2 hours of continues video recording - allowing for an uninterrupted covert operation. In addition, the device includes external connector for a battery pack extension or connecting DC to charge the internal battery hence continues operation of more than 2 days can be accomplished.

It includes the ability to:

- Adjust the cradle to different helmet sizes using a modular, clip-on cradle system (adjustment set not included)
- Encrypt audio/video, video only, or audio files
- Capture still images (in jpeg format)
- Trigger recording sessions based on video motion detection algorithm
- Capture individual jpeg images from streaming video files
- Authenticate that recording sessions have not been edited or tampered using embedded watermark functionality
- Extend continuous recording time to more than 1month by recording also on external USB disk
- Connect to the internet/intranet to configure the DVR, upload the recorded data or even real-time stream the video from remote location

- Connect an external WiFi card to allow wireless interface similar to the Ethernet

2.2 Features summary

1. State of the art MPEG2 video compression in full D1 resolution for high quality video recording in variable compression bit rate supporting rates of up to 8 Mbit/Sec
2. High quality audio encoder using powerful MPEG1 Layer 2
3. Composite video input with support for PAL and NTSC
4. Composite video output, which can be switched between live monitor view and recorded playback
5. Media files can also be viewed on a PC - using standard media players such as Windows Media Player
6. Water mark: Media files have a signature to verify that the video has not been tampered
7. Encryption: Media files can be optionally encrypted using a AES 128 bit encryption, with a user-generated software key. These files are viewable onboard with a password, or with a PC player after they have been decrypted
8. Recording in time lapse mode
9. Internal Lion rechargeable battery, which allows the Sting II to operates for approximately two hours
10. Video is embedded with a visible time/date, stamp in a configurable location
11. Hi Speed USB2.0 used for multiple functionalities placed at a hidden location used for Mass-Storage device when connected to a PC (to upload recorded files and configure the system)
12. Ethernet 10/100 port supports IP, TCP, UDP, DHCP protocols. Supports Video streaming and file transfer through a web interface from a remote PC
13. Connection to wired Remote-Control with built-in vibrator for alarms and indication to user with FailSafe memory and battery warning. The Failsafe operation is also indicated to the user by an on board LEDs (their visibility is configurable)
14. Optional Video transition of live action to remote location
15. Optional external WiFi adaptor PCMCIA card to allow wireless interface similar to the Ethernet
16. Optional GPS card can be connected to a PCMCIA interface to allow GPS time and position stamp on the recoded video

3 Detailed Product Specifications

Video Recording

Video Format	MPEG2 (MP@ML)
Video Resolution Supported (configurable via parameter file)	Full D1 (720x576 NTSC and 720x480 PAL)
Max Video Bit Rate	VBR mode: average 4Mbps, Peak 8Mbps CBR mode: upto 5Mbps
Chroma format and bit width	4:2:0
Video Standards Supported	NTSC/PAL
Max Frame Rate	30 fps

Video and Audio Interface

Camera video connector	3.5mm A/V connector plug
Video input type	Composite Video, NTSC/PAL standard
Camera power interface	1.3mm connector
Camera power output voltage	5V, 300mA output

Audio Recording

Audio Bandwidth	16KHz
High Density, High Quality parameters	44KHz sampling, MPEG1 Layer2 encoder MOS quality: 3.8

Recording Media

Memory card type	Two recorded media options are available: - Compact Flash Card – mounted inside the DVR - External USB disk (today there exist disks with capacity of 1 Tera-Bytes)
Storage capacity	Shipped with 4GByte card, capable of up to 64GByte CF cards (higher capacity may also be supported when available by the market)

Video and Audio Output and IR remote control

A/V out Interface connector	3.5mm A/V connector
Video out Resolution	Full D1
Menus for configuration and activation	Full configuration on Video output using IR remote control

Power

Internal battery	Internal rechargeable Li-Ion Battery: 3.7V/800mAh
Internal battery charger	Using external DC IN connector or Using USB Mini connector, with 100mA peak charging current (15min quick charge to 50%, 3 hours to full charge)
Power Consumption	Recording mode: 720mA Deep-Sleep: 10uA
External Power Input	7-12VDC 800mA, charger input, 4.5mm connector, +- center

Ethernet Interface

Ethernet Standard support	10/100 Base T (IEEE802.3)
Application supported via the Ethernet interface	The following features are available using a built-in web server implemented in the Sting II that can be accessed from any web browser of the user's PC: - Webcam (streaming of video in MJPEG format with 10 fps) - File upload and download - Configuration of the Sting II parameters - Start and stop recording and still picture taking

Others

PC connection	Using USB 2.0 and mass storage device profile (FAT32 file system is mounted on the SD card)
PC Control software	"StingMediaCenter" software for PC Control via parameter file as in Sting family of products
Control software OS support	WindowsXP, Vista (compatibility mode), Windows 7 (compatibility mode)
Video out and Infra-Red remote control	Full configurability is also possible from video output and IR remote control
Failsafe operation	Indications using LEDS and a vibrator mounted on wired Remote-Control
Operational modes	- Audio recoding - Video and Audio Recording - Stills picture snapshot
Video download time	Approx. 20min for a 4GByte card using USB2.0 interface
Trigger input to start detection	Input trigger by from VMD
Video Motion Detect (VMD)	Internal VMD with thresholds configured by the users

Mechanical

Mechanical Dimensions	DVR: 3.62" x 2.44" x 1.06" (92 mm x 62mm x 27 mm)
Weight	Approx. 6.34 Ounces (180 gr.)

Operation and Storage conditions

Operation Temperature	23ºF to 122ºF (-5ºC to +50 ºC)
Operations Humidity	30% to 80%
Storage Temperature	-4ºF to 176ºF (-20ºC to +80 ºC)

Supported regulatory standard

European	CE under RTTE directive articles 3.1(b) and 3.2
American and world-wide	FCC part 15 subpart b and subpart c

Table 1: Specifications of the STING II